

REMARKS

Specification

The specification is amended to correct errors in language, to add headings in accordance with MPEP § 601, and to delete extraneous matter from the Abstract of the Disclosure.

Claims

The claims are amended to place them in better form and to delete the extraneous reference numerals.

Rejection under 35 USC §103

Attorney for applicant respectfully traverses the rejection of all claims as obvious under 35 USC 103(a).

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention is always upon the Patent Office. Only when a *prima facie* case of obviousness is established does the burden shift to the applicant to produce evidence of nonobviousness. If the Patent Office does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of a patent. (MPEP 2142)

A *prima facie* case of obviousness is established only when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. The prior art cited by the Patent Office must, *inter alia*, teach or suggest all of the limitations recited in the rejected claims. (MPEP 2142) The prior art cited in the present Office Action does not meet this requirement. In particular, there is no teaching or suggestion of either a means for producing a *fluid jet* or for forming a focus of a radiation beam on a *fluid jet*.

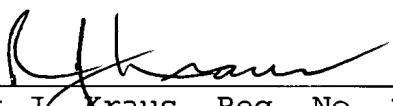
The Examiner admits that Wang (U.S. Patent 5,044,001) does not disclose the focus of the focused radiation beam on a fluid jet, but cites Smither et al. (U.S. Patent 4,953,191) as disclosing such feature. Contrary to what is stated by the Examiner, however, Smither et al. does not disclose the focus of a radiation beam on a *fluid jet*. The McGraw-Hill Dictionary of Scientific and Technical Terms, Second Edition, (p. 859, copy attached) defines a jet as "A strong, well-defined stream of compressible fluid, either gas or liquid, issuing from an orifice or nozzle or moving in a contracted duct". One example of how a *fluid jet* can be formed is described on page 1 of the present application, in the second paragraph, where it is stated that a fluid such as water is ejected under a high pressure. What Smither et al. discloses is not a fluid jet, but a stream of gallium flowing across the surface of an anode (e.g., see column 4, lines 7-10).

Thus, the Patent Office has not established a *prima facie* case of obviousness with respect to any claim in the patent application at issue.

Concluding remarks

In view of the above comments, it is submitted that all claims in the application are patentable over the prior art and that the application is in condition for allowance.

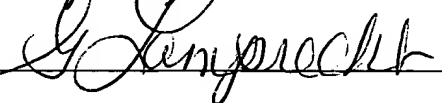
Respectfully submitted,

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teristically red. Also known as jasperite; jasperoid; jaspis.

jasperite See jasper.

jasperoid See jasper.

jaspillite [PETR.] A compact siliceous rock resembling jasper and containing iron oxides in bands.

jaspis See jasper.

jaspoid See tachylite.

JATO engine [AERO ENG] Derived from jet-assisted-takeoff engine. 1. An auxiliary jet-producing unit or units, usually rockets, for additional thrust. 2. A JATO bottle or unit; the complete auxiliary power system used for assisted takeoff.

jauch See jauk.

jauk [METEOROL.] A local name for the foehn in the Klagenfurt basin of Austria; it may come from the south, but is developed as a north foehn. Also spelled jauch.

jaundice [INV ZOO]. See grasserie. [MED] Yellow coloration of the skin, mucous membranes, and secretions resulting from hyperbile-rubinemia. Also known as icterus.

jaundice of newborn [MED] Jaundice in infants during the first few days after birth, due to various causes.

Java black rot [PL PATH] A fungus disease of stored sweet potatoes caused by *Diplodia tubercicola*; the inside of the root becomes black and brittle.

Java cotton See kapok.

Java man [PALEON] An overspecialized, apelike form of *Homo sapiens* from the middle Pleistocene having a small brain capacity, low cranial vault, and massive browridges.

jaw [ANAT] Either of two bones forming the skeleton of the mouth of vertebrates: the upper jaw or maxilla, and the lower jaw or mandible. [ENG] A notched part that permits a railroad-car axle box to move vertically. [GEOL] The side of a narrow passage such as a gorge.

jawbreaker See jaw crusher.

jaw clutch [MECH ENG] A clutch that provides positive connection of one shaft with another by means of interlocking faces; may be square or spiral; the most common type of positive clutch.

jaw crusher [MECH ENG] A machine for breaking rock between two steel jaws, one fixed and the other swinging. Also known as jawbreaker.

jawless vertebrate [VERT ZOO] The common name for members of the Agnatha.

J bolt [DES ENG] A J-shaped bolt, threaded on the long leg of the J.

J box See junction box.

J-carrier system [COMMUN] Broad-band carrier system, providing 12 telephone channels, which uses frequencies up to about 140 kilohertz by means of effective four-wire transmission on a single open-wire pair.

J display [ELECTR] A modified radarscope A display in which the time base is a circle; the target signal appears as an outward radial deflection from the time base.

Jeans viscosity equation [THERMO] An equation which states that the viscosity of a gas is proportional to the temperature raised to a constant power, which is different for different gases.

jeep [MECH ENG] A one-quarter-ton, four-wheel-drive utility vehicle in wide use in all United States military services.

jeffersonite [MINERAL] $\text{Ca}(\text{Mn}, \text{Zn}, \text{Fe})\text{Si}_2\text{O}_6$ A dark-green or greenish-black mineral composed of pyroxene.

Jeffrey crusher [MIN ENG] A crusher to break soft minerals, such as limestone. Also known as whizzer mill.

Jeffrey diaphragm jig [MIN ENG] A plunger-type jig with the plunger beneath the screen.

Jeffrey molveyor [MIN ENG] A string of short conveyors on driven wheels connected together to run alongside a heading or room conveyor; used to keep a continuous miner in operation at all times.

Jeffrey single-roll crusher [MIN ENG] A simple type of crusher for coal, with a drum to which are bolted toothed segments designed to grip the coal, thus forcing it down into the crushing opening.

Jeffrey swing-hammer crusher [MIN ENG] A crusher with swing arms on a revolving shaft for crushing coal, ore, or other material against the iron casing of the crusher; a screen at the bottom allows sufficiently fine pieces to pass through.

Jeffrey-Traylor vibrating feeder [MIN ENG] A feed chute vi-

brated electromagnetically in a direction oblique to its surface; rate of movement of rock depends on amplitude and frequency of vibration.

Jeffrey-Traylor vibrating screen [MIN ENG] A vibrating screen whose action results from an oscillating armature and a stationary coil.

jejunitis [MED] Inflammation of the jejunum.

jejunostomy [MED] The making of an artificial opening through the abdominal wall into the jejunum.

jejunum [ANAT] The middle portion of the small intestine, extending between the duodenum and the ileum.

jellied gasoline See gelatinized gasoline.

jelly See ulmin.

jellyfish [INV ZOO] Any of various free-swimming marine coelenterates belonging to the Hydrozoa or Scyphozoa and having a bell- or bowl-shaped body. Also known as medusa.

jelly fungus [MYCOL] The common name for many members of the Heterobasidiomycetidae, especially the orders Tremalales and Dacromycetales, distinguished by a jellylike appearance or consistency.

jelutong See pontianak gum.

Jennerian vaccine See smallpox vaccine.

Jenner's stain See May-Grünwald stain.

jenny [VERT ZOO] 1. A female animal, as a jenny wren. 2. A female donkey.

Jensen's inequality [MATH] 1. A general inequality satisfied by a convex function:

$$f\left(\sum_{i=1}^n a_i x_i\right) \leq \sum_{i=1}^n a_i f(x_i)$$

where the x_i are any numbers in the region where f is convex and the a_i are nonnegative numbers whose sum is equal to 1.

2. If a_1, a_2, \dots, a_n are positive numbers and $s > t > 0$, then $(a_1^s + a_2^s + \dots + a_n^s)^{1/s}$ is less than or equal to $(a_1^t + a_2^t + \dots + a_n^t)^{1/t}$.

Jensen's sarcoma [VET MED] A transmissible malignant tumor originally observed in a rat inoculated with acid-fast bacteria from a cow with pseudotuberculous enteritis.

Jeppel's oil See bone oil.

jerboa [VERT ZOO] The common name for 25 species of rodents composing the family Dipodidae; all are adapted for jumping, having extremely long hindlegs and feet.

jeremejevite [MINERAL] AlBO_3 A colorless or yellowish mineral composed of aluminum borate that occurs in hexagonal crystals.

Jeremiasen crystallizer [CHEM ENG] Device used to grow solid crystals in a supersaturated liquid solution and to separate them from it.

jerk [MECH] 1. The rate of change of acceleration; it is the third derivative of position with respect to time. 2. A unit of rate of change of acceleration, equal to 1 foot (30.48 centimeters) per second squared per second.

jerkhead [ARCH] Section of a roof hipped for only part of its height, forming a truncated gable on the wall below.

jerk pump [MECH ENG] A pump that supplies a precise amount of fuel to the fuel injection valve of an internal combustion engine at the time the valve opens; used for fuel injection.

jerry can [ORD] A 5-gallon (19-liter), flat-sided, narrow can adapted from a German-made can, easily stacked and transported, and adapted by special openings for discharging fuel.

jersey [TEXT] A knitted wool, cotton, polyester, rayon, or other fabric with a slight rib on one side.

jet [FL MECH] A strong, well-defined stream of compressible fluid, either gas or liquid, issuing from an orifice or nozzle or moving in a contracted duct.

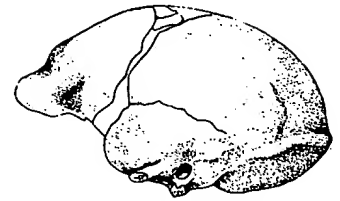
jet aircraft [AERO ENG] An aircraft with a jet engine or engines.

jet coal [GEOL] A hard, lustrous, pure black variety of lignite, occurring in isolated masses in bituminous shale; thought to be derived from waterlogged driftwood. Also known as black amber.

jet compressor [MECH ENG] A device, utilizing an actuating nozzle and a combining tube, for the pumping of a compressible fluid.

jet condenser [MECH ENG] A direct-contact steam condenser

JAVA MAN



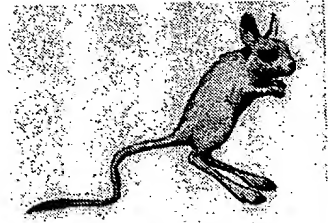
Lateral view of the cranium of *Homo erectus* II, one of the first specimens of Java man. (Carnegie Institution of Washington, as used in M. F. Ashley Montagu, *An Introduction to Physical Anthropology*, 2d ed. Charles C. Thomas, 1951)

J DISPLAY



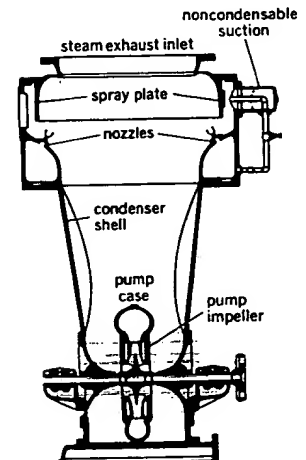
J type of radar display showing the signals as radial pips.

JERBOA



Jerboa, with body 3-6 inches (7-15 centimeters) long and tail up to 8 inches (20 centimeters) long.

JET CONDENSER



A low-level jet condenser. (C. H. Wheeler Manufacturing Co.)